

CONCRETE CONSTRUCTION

ANNUAL INDEX / 1971

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AGGREGATES

Waste Materials in Concrete

The use is discussed of broken glass, sawdust, plastics, mine wastes and garbage as aggregates in concrete Sept. 372

Wheat—Puffed and Carbonized— as an Aggregate

Used alone, this new material serves as an insulant; in concrete it serves as both insulation and lightweight aggregate Nov. 475

ASSOCIATIONS

International Trade and Technical Organizations of the Construction Industry

An alphabetical listing with complete mailing addresses and phone numbers Jan./Aug. 17/337

The Concrete Society . . .

Newest of the International Prime Movers Among the Concrete Industries

This nonprofit organization located in the United Kingdom grouped four U. K. organizations into one group representative of the entire industry. The Society promotes research and development, exchange of technical data and provides a forum for interchange of ideas March 93

Portland Cement Association Has New Organizational Plan

Dec. 520

COLOR

White Cement Ready Mixed Concrete— One Key to Enlarging Markets for Concrete

The experience of builders and the increasing interest of architects and others suggest strongly that the concrete construction industry should find this an important weapon in its competitive arsenal Jan. 9

CRACK CONTROL

Controlling Cracks with Plastic Joints

Pre-formed T-shaped plastic contraction joints are inserted into wet concrete at specified intervals May 185

Sources of Cracks in Concrete Structures

By: Professor Dr.-Ing. Fritz Leonhardt.
This is an explanation of cracks that occur due to internal restraint of deformation which develops during changes of ambient temperature and produces a temperature gradient across the cross section of a structural member Aug. 335

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Control of Random Cracking in Exterior Residential Flatwork

The role of proper joint types, reinforcement and subgrade preparation in preventing random cracking.
Part I Nov. 468
Part II Dec. 508

CURING

Concrete Curing: A New Approach

A direct product examination approach to proper concrete curing is presented July 279

Linseed Oil as an Antispalling Compound

By: L. E. Gast, W. L. Kubie and J. C. Cowan.
New test results indicate that penetration of the concrete surface is the key to effectiveness with the use of linseed oil on highway paving Aug. 331

Linseed Oil Emulsion for Bridge Decks

By: Dean Mayberry.
Curing of wet concrete with the use of a spray technique is believed to retard concrete deterioration and reduce spalling under winter de-icing salts Sept. 383

EARTHQUAKE PERFORMANCE

The Los Angeles Earthquake

Summary of a preliminary report from the Prestressed Concrete Institute April 137

ESTIMATING

Philosophy of Estimating

By: A. L. "Jake" Spencer.
Part I: Estimating can make or break a job. When the quantity is large, take a close look. Double-check figures and decimals. Window shop. Keep accurate records. Know the local union rules May 177

Part II: Estimates must be a guideline to building the job, not just a necessary evil to getting it. Know costs, your competitor, and your employees' capacities and loyalties June 235

FASTENERS

Cast-in-Place vs. Drop-in Anchors

By: Robert H. LeSage.
The respective merits are discussed of anchor bolts that are cast into concrete and those that are dropped in later Jan. 20

FINISHING

Pattern Stamped Concrete

The economy, durability and ease of application of a recently patented imprinting process demonstrate the increasing versatility of concrete Feb. 47

Defects in Exposed Concrete Finishes.

A Series of Photographs

A pictorial review of defects found in exposed concrete is accompanied by brief descriptions and comments as to probable causes of the irregularities March 81

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Paints and Coatings for Concrete

This is a discussion of the properties, advantages, disadvantages and specific applications of some of the major types of paints and coatings used for concrete April 122

FLOORS

New Concept for Age-Old Technique

A new flooring process, expected to provide new concepts in architectural design, permits terrazzo-like appearance with significant weight reduction and cost-saving March 98

A Basic Guide to Concrete Floor Construction

Rules and procedures are presented for the design and construction of slab-on-grade concrete floors May 170

FORMING

Prefab Fiberglass Forms . . .

Help Control Costs on Airport Garage

The details are given of the complex forming problems encountered in construction of the huge Seattle-Tacoma airport garage, accesses and exits for which are provided by four spiral ramps Jan. 2

FOUNDATIONS

Foundation Repair

By: Robert W. Brown, Martin Prager and Joe Jansen. Part I: Data collected from 380 repair jobs over a four-year period in Dallas, Texas, indicate that foundation repair techniques can be successful if the contractor understands the chemical and physical behavior of local soil constituents July 283

Part II: Soil test data in and around Dallas, Texas, are presented that could provide a technical basis for designing soil stabilization for preconstruction as well as remedial applications Aug. 327

LIFT SLAB

Lift Slab Made Practical

A new approach is described that involves simultaneous lifting of all slabs, thereby reducing costs of high-rise construction Sept. 377

LIGHTNING PROTECTION

Lightning Protection

Systems for preventing damage to concrete and masonry buildings June 218

METRICATION

Sermon in Noisy Stones . . . or What Price Metrication?

An interesting and thought-provoking report presented at the U. S. Metric Study Conference on Construction in behalf of the Consulting Engineers Council Feb. 54

Going Metric

A report of the benefits and problems involved in conversion to the metric system June 223

Metrication—Only a Matter of Time

Facts and comments are given on conversion in the construction industry Sept. 379

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MIX DESIGN

Mix Design Hints for Watertight Concrete

The fundamental rules are discussed which must be observed in designing a concrete mix that has the potential to resist passage of water Jan. 5

Concrete Bleeding . . . Good or Bad?

Notes on when and why bleeding is desirable and when and why it should be avoided. Suggestions for controlling it where necessary April 133

PAVING

Concrete Beats Asphalt in Indiana Test

Despite carrying one-third heavier loads, concrete has greatly outperformed asphalt in every respect in Indiana's pavement tests June 222

American Concrete Paving Association Pave-in

Pave-in demonstrated the initial and long-range economy possible with the use of concrete in place of asphalt for lightly trafficked roads Aug. 354

Paving Airport Runways

Aircraft traffic demands the use of special materials and observance of tight controls by paving contractors Dec. 513

POLYMER CONCRETE

Polymer Concrete

Concrete impregnated or loaded with a monomer (methylmethacrylate) and then polymerized by radiation and/or by heat and catalytic ingredients exhibits improvements when compared with ordinary concrete May 173

PRECASTING

Precast Concrete Connections

Building codes, design statistics, simplicity and allowable tolerances are important Dec. 515

PRESTRESSING

Evaluation of Difficulties Encountered in Post-Tensioned Structures

By: William J. Gladstone, P.E. The design profession is alerted to distresses that can be predicted - and possibly avoided - in post-tensioned structures Aug. 324

PUMPING

Protecting Concrete Hose Pays Off

By: M. J. Monnahan. Proper handling and storage of concrete hose, along with an awareness of performance characteristics, can result in real savings to the contractor Feb. 34

If You Have Good Concrete You Can Pump It

By: C. W. Massie. The man who understands the basic economics of pumping concrete has a wide choice of sizes, capacities, features, and reach in regard to presently available equipment. Common sense considerations will guide mix design June 227

Concrete Pumping Proves Most Economical

The structural design of the building is the key to knowing when to use pumping rather than other methods of placing concrete July 287

Candid Answers to Some Common Questions on Pumping

The American Concrete Institute seminar on pumping provided answers to questions concerning mix designs, equipment, economics, field tests, decisions to pump or not to pump Sept. 385

QUALITY CONTROL

If You Want Quality—Maintain Control

By: Jacob Feld, Ph. D. Proper planning, design, understanding and inspection are essential to quality control. Watch your handling methods, use proper placing methods, and know your reshoring operation April 139

The Field Engineer's Role in Ultimate Job Design Strength

By: Norman H. Withey, P. E. The field engineer must be knowledgeable about materials and technology, have proper job authority, and be properly paid May 183

Effect of High Temperatures on Hardened Concrete

Concrete for use in modern furnaces, atomic reactors and jet runways must be very tough Nov. 477

RECREATIONAL USES

Building a Ferro-Cement Yacht

Boatbuilding using ferro-cement can be highly successful or a complete fiasco, depending on know-how. Here's how April 129

Recreational Concrete

Construction details are given for tennis courts June 231

RESIDENTIAL

New System for Residential Floor and Roof Construction

The system, developed and perfected by Portland Cement Association, provides for integration and distribution of mechanical, electrical and communication systems Feb. 42

Low-Cost Housing? Maybe it's in the Bag

An FHA-approved revolutionary approach to building with concrete offers durability, flexibility of design and extremely low cost March 75

Colorado's Custom Concrete Homes

The construction details are discussed for economical yet custom designed dwellings for low-income families in the Arkansas Valley Aug. 329

Houses at Castellares-le-Neuf

The use of concrete for residential purposes can provide artistic, functional and personalized dwellings. Nov. 473

ROOFS

Concrete Roof Systems—

This is a discussion of the economies esthetic appeal and functional utility of concrete roof systems by comparison with competitive materials

Part I: Precast/Prestressed Construction Jan. 13

Part II: Cast-in-Place Roof Construction Feb. 39

Part III: Shell Construction March 89

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Rooftop Parking for Low-Rise Buildings

A variety of cast-in-place concrete systems is used in a two-floor one-story concept on projects that would otherwise have dead roof functions March 100

SUMMER CONCRETING

Cool Heads and Hot Concrete

Placement of high quality concrete demands control of mix temperatures, use of retarding and water reducing admixtures, adequate work crews, correct curing procedures May 181

TESTING

Have We Progressed Beyond Workability?

Some new thoughts on workability are offered, but until a simple technique is developed and established to specify and test workability it appears advisable to handle this aspect of concrete construction by using a performance specification July 289

New Bridge Design Safety is Proved

Thirty-ton scale model was constructed at Portland Cement Association to test the safety of the bridge under extreme traffic loads Nov. 480

TILT-UP

Tilt-up Concrete Panels . . . A New Look

Economy of construction and pleasing architectural effects explain growing interest in tilt-up construction Oct. 421

Design of Tilt-up Structures

Numerous design options are available in this method of construction: wall panels can be load-bearing or non-load-bearing, used in up to three-story construction, decorative, insulated or sandwich construction Oct. 423

Construction Procedures for Tilt-up Buildings

Proper field practices are essential to realizing the economies available in tilt-up construction Oct. 428

Exposed Finishes for Tilt-up Panels

Plain surfaces or works of art? The variations are numerous and most are easily executed. Suggestions and procedures are discussed Oct. 435

Tilt-up Stone Walls

Rock-face tilt-up panels represent one of the most successful efforts at introducing an esthetically pleasing appearance to buildings constructed by the tilt-up method Oct. 437

Chemical Curing and Bond-Breaking Compounds

Ten important factors are discussed briefly that should be considered in the selection of a proper agent Oct. 441

WIRAND CONCRETE

Wirand Concrete . . . A New Structural Material

By: R. F. Dickerson and D. L. Lankard. A new material is made available which has the potential of making beneficial changes in many long-time practices and techniques of the construction industry July 276

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